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Oculomotor screening and neuro-visual rehabilitation following pediatric brain tumor resection

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Abstract

Visual difficulties are common after brain tumors, despite a lack of visual complaints at diagnosis. These include difficulties with eye movements, visual coordination, vergence, accommodation, and photophobia, in addition to more obvious problems such as visual field defects.This case report presents the results of a thorough neuro-visual evaluation in a boy with sequelae after a brain tumor including intermittent double vision that was not explained by routine visual examination. Subjective complaints included poor reading perseverance, intermittent blurred and double vision, headache around the eyes when performing near activities, less efficient eye movement behavior in reading tasks, and increased sensitivity to visual motion. The patient participated in a multidisciplinary visual rehabilitation program that included reading glasses with prism compensation and tinted glasses, as well as training with the aim of improving eye teaming, near vision functions, and perseverance in eye movements.The patient responded quickly to the vision therapy program, with positive changes after just four weeks. Repeated neuro-visual evaluations over eight months showed remarkable improvements that were stable over time. This encouraging case report supports the notion that neuro-visual evaluation and rehabilitation should be included in the follow-up of patients after brain tumors.

Keywords: Pediatrics; brain tumor; oculomotor rehabilitation; orthoptics; vision disorders.